



MISSISSIPPI CRIME LABORATORY

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Lab Case #: 14-003509

Request: 0006

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TRACE EVIDENCE (JACKSON) Report

April 03, 2014

Main Laboratory

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Chris Scott

MERIDIAN POLICE DEPT

2415 6TH Street

Meridian, MS 39301

601-485-1859

REFERENCE- Agency Case # 1-14-008628

VICTIM: Christian Andreacchio

SUSPECT: Whitley Alexis Goodman

SUSPECT: Dylan Swearingner

REQUEST FOR ANALYSIS

On 3/26/2014 it was requested that the TRACE EVIDENCE (JACKSON) section perform the following analysis: Gunshot Residue Examination (J). This examination was completed on 4/3/2014.

Examine the samples in Submission 005 for the presence of gunshot residue.

EVIDENCE

On 3/26/2014 at 10:30 AM, Forensic Scientist Stephanie Baskin received the following evidence from the MERIDIAN POLICE DEPT via Barbara Staten-Dubose:

Evidence Submission 005

One sealed Gunshot Residue (GSR) Evidence Collection Kit labeled "Christian S. Andreacchio".

RESULTS & CONCLUSIONS

Examinations Performed: Scanning Electron Microscopy with Energy Dispersive X-ray Analysis

Particles of gunshot residue were positively identified on the samples in Submissions 005B(Right Palm - Christian S. Andreacchio) and 005D(Left Palm - Christian S. Andreacchio).

Particles indicative of gunshot residue were observed to be present on the samples in Submissions 005A(Back of Right Hand - Christian S. Andreacchio), 005B(Right Palm - Christian S. Andreacchio), 005C(Back of Left Hand - Christian S. Andreacchio), and 005D(Left Palm - Christian S. Andreacchio). These particles are consistent with particles present in gunshot residue. However, these indicative particles do not possess the combination of morphological characteristics and elemental composition necessary to identify them as gunshot residue to the exclusion of all other environmental sources.

REMARKS

CONT'D:

Gunshot residue examinations are conducted when a question arises as to whether a person has been in the environment of a discharged weapon.

The gunshot residue which is tested for at the Mississippi Crime Laboratory is produced from components of the ammunition during the process of discharging the weapon. The main elemental components of the particles are produced from the primer composition and these include Lead, Barium and Antimony.

At the time of discharge, elemental components are vaporized to a gaseous state and forced from any openings in the weapon. Upon exiting the weapon and being exposed to the cooler air, these gaseous vapors condense back to solid particles which will normally have a spherical morphology.

Normally, gunshot residue samples are collected from the hands of persons suspected of being in the environment of a discharged weapon. These samples are collected by using an aluminum stub covered with adhesive tape. The adhesive area of the stub is gently pressed to the area being sampled in order to remove any microscopic particles which may be present.

When these samples are submitted to the Mississippi Crime Laboratory, they are examined using a Scanning Electron Microscope with an Energy Dispersive X-Ray Analyzer. This instrument allows the examiner to search for microscopic particles with the characteristic particle morphology and elemental composition necessary to identify those particles as gunshot residue.

The identification of gunshot residue particles on samples from an individual indicates that person has been in the environment of a discharged weapon. (Either by firing the weapon, handling a weapon or object with gunshot residue on its surface or being in close proximity to a weapon at time of discharge.)

Several environmental factors can effect the ability to detect and identify gunshot residue particles. These include:

1. Type of Weapon
2. Type of Ammunition
3. Time Lapse between discharge of weapon and time of collection.
4. Activity of the subject between time of shooting and time of collection.
5. Collection Technique

Because of factors listed above, the lack of gunshot residue on samples does not preclude the possibility that the person has been in the environment of a discharged weapon.

Case Analyst:



Chad Suggs, D-ABC
Forensic Scientist

Technical Reviewer:



David Whitehead, D-ABC
Section Chief - Trace Evidence

DFW

This report represents the analytical results of the examinations performed on the items of evidence in this case. It should be noted that this report does not represent all documentary items contained in the master file. Should additional material be required for court purposes, please contact the laboratory as soon as possible.